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INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

REC'D 26 MAY 2004

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See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)



Applicant's or agent's file reference A3-152PCT	FOR FURTHER ACTION	
International application No. PCT/US 03/31882	International filing date (day/month/year) 08.10.2003	Priority date (day/month/year) 30.10.2002
International Patent Classification (IPC) or both national classification and IPC H01R13/15		
Applicant MOLEX INCORPORATED et al.		

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.
2. This REPORT consists of a total of 5 sheets, including this cover sheet.

☒ This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

These annexes consist of a total of 3 sheets.

3. This report contains indications relating to the following items:
 - I ☒ Basis of the opinion
 - II ☐ Priority
 - III ☐ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
 - IV ☐ Lack of unity of invention
 - V ☒ Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
 - VI ☐ Certain documents cited
 - VII ☐ Certain defects in the international application
 - VIII ☐ Certain observations on the international application

Date of submission of the demand 26.03.2004	Date of completion of this report 25.05.2004
Name and mailing address of the international preliminary examining authority:  European Patent Office D-80298 Munich Tel. +49 89 2399 - 0 Tx: 523656 epmu d Fax: +49 89 2399 - 4465	Authorized Officer Garcia Congosto, M Telephone No. +49 89 2399-7446 

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International application No. PCT/US 03/1882

I. Basis of the report

1. With regard to the **elements** of the international application (*Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17)*):

Description, Pages

1-6 as originally filed

Claims, Numbers

1-7 filed with telefax on 26.03.2004

Drawings, Sheets

1/9-9/9 as originally filed

2. With regard to the **language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language: , which is:

- ☐ the language of a translation furnished for the purposes of the international search (under Rule 23.1(b)).
- ☐ the language of publication of the international application (under Rule 48.3(b)).
- ☐ the language of a translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in written form.
- ☐ filed together with the international application in computer readable form.
- ☐ furnished subsequently to this Authority in written form.
- ☐ furnished subsequently to this Authority in computer readable form.
- ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- ☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. The amendments have resulted in the cancellation of:

- ☐ the description, pages:
- ☐ the claims, Nos.:
- ☐ the drawings, sheets:

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5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)).

(Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.)

6. Additional observations, if necessary:

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes: Claims	1-7
	No: Claims	
Inventive step (IS)	Yes: Claims	1-7
	No: Claims	
Industrial applicability (IA)	Yes: Claims	1-7
	No: Claims	

2. Citations and explanations

see separate sheet

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1. Reference is made to the following documents:

- D1: DE 33 46 027 A (PHÖNIX) 4 July 1985 (1985-07-04)
- D2: EP-A-0 780 923 (HAGER) 25 June 1997 (1997-06-25)
- D3: GB-A-1 036 976 (AMP) 20 July 1966 (1966-07-20)

2. Independent claim 1 appears to be new and inventive for the following reasons:

D3, which is considered to represent the closest prior art, discloses (the references in parentheses applying to this document):

"An electrical terminal (16) stamped and formed of conductive sheet metal material for mating with a blade-like mating terminal (44), comprising: a generally flat base (18) having a front mating end (right in figure 4) and a rear terminating end (left in figure 4); a spring arm (24,23,28,30) having a front bowed end (24) joined to the front mating end (22) of base and folded rearwardly over the base to the rear end (18) of the spring arm, and including an opening (32) in the front bowed end (24) through which the blade-like mating terminal (44) is inserted,"

The subject-matter of claim 1 differs from D1, inter alia, in that:

F1: the spring arm being bifurcated by means of a front-to-rear slot () communicating with said opening ();

The objective technical problem solved by F1 could be seen as to simplify the construction of the spring arm. The front-to rear-slot allows an easier construction of another new feature of claim 1, F2: "a contact arm with a sharp edge engageable with the mating terminal".

The invention is neither disclosed in nor rendered obvious by either one of the prior art documents listed in the International Search Report. Neither F1 nor F3: "the spring arm including an opening through which the mating terminal is insertable" are disclosed in D1 or D2. F3 is disclosed by D3 as explained above, and is for this reason considered the closest prior art. Even if Document D2

discloses an electrical terminal with a spring arm comprising most of the new features of the terminal of claim 1, D2 does not disclose F1, therefore a combination of the features of D2 and D3 would not lead to the terminal defined in claim 1.

3. The subject-matter of dependent claims 2-7 also involves an inventive step because they depend on claim 8.

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CLAIMS:

What is claimed is:

1. An electrical terminal (30) stamped and formed of conductive sheet metal material for mating with a blade-like mating terminal (32), comprising:
 - a generally flat base (34) having a front mating end (30a) and a rear terminating end (30b);
 - a spring arm (42) having a front bowed end (42a) joined to the front mating end of base and folded rearwardly over the base to a rear bowed end (42b) of the spring arm, and including an opening (46) in the front bowed end through which the blade-like mating terminal (32) is inserted, the spring arm being bifurcated by means of a front-to-rear slot (48) communicating with said opening (46);
 - a contact arm (44) folded back forwardly from said rear bowed end (42b) beneath the spring arm (42) above the base (34) and spaced therefrom for receiving the blade-like mating terminal (32) inserted between the contact arm and the base; and
 - a sharp edge (50) on said contact arm (44) facing the rear terminating end of the base and engageable with the blade-like mating terminal (32) to resist unmating of the terminals (30,32).
2. The electrical terminal of claim 1 wherein said base (34) is generally rectangular.
3. The electrical terminal of claim 1 wherein said base (34) has a raised embossment (40) on the top thereof for engaging the blade-like mating terminal (32).
4. The electrical terminal of claim 1 wherein said base (34) has a terminating tail (38) projecting from the rear terminating end (30b) thereof.
5. The electrical terminal of claim 1 wherein said base (34) has engaging teeth (36) on opposite edges thereof for engagement in an appropriate mounting passage in a connector housing.

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6. The electrical terminal of claim 1 wherein said slot (48a) extends through the rear bowed end (42b) of the spring arm (42).
7. The electrical terminal of claim 7 wherein said slot (48a) extends into said contact arm (44) and stops at said sharp edge (50).

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